



## Complete Summary

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### TITLE

Adult diabetes: percentage of patients receiving a funduscopy photo with interpretation by an ophthalmologist or optometrist.

### SOURCE(S)

National Diabetes Quality Improvement Alliance performance measurement set for adult diabetes. Chicago (IL): National Diabetes Quality Improvement Alliance; 2003 May 1. 11 p.

## Brief Abstract

### DESCRIPTION

This measure assesses the percentage of adult diabetes patients aged 18-75 years receiving a funduscopy photo with interpretation by an ophthalmologist or optometrist.

This measure is used for the purpose of quality improvement.

### RATIONALE

Retinopathy poses a serious threat to vision. The prevalence of retinopathy is strongly related to the duration of diabetes. Treatment modalities exist that can prevent or delay diabetic retinopathy.

American Association of Clinical Endocrinologists/American College of Endocrinology (AAACE/ACE), American Diabetes Association (ADA), and American Academy of Ophthalmology (AAO) recommend that a dilated eye examination be performed on patients with diabetes during an initial assessment and at least annually thereafter.

AAACE/ACE recommend that the annual eye examination be performed as part of a retinal module. The module includes test of visual acuity (Snellen chart); funduscopy examination and intraocular pressure (IOP) test. The AAACE/ACE recommend that diabetic patients should be under the care of an ophthalmologist experienced in the management of diabetic retinopathy. AAACE/ACE further believes that a dilated eye exam should only be done by an MD/DO.

ADA recommendation includes an annual comprehensive dilated eye and visual examination by an ophthalmologist or optometrist who is knowledgeable and experienced in the management of diabetic retinopathy for: all patients aged 10 years and older who have had diabetes for three to five years; all patients

diagnosed after age 30; and any patient with visual symptoms and/or abnormalities. However, some evidence suggests that the prepubertal duration of diabetes may be important in the development of microvascular complications; therefore, clinical judgment should be exercised when individualizing these recommendations.

In addition, poorly controlled patients or those undergoing the initiation and stabilization of treatment may need to be seen by a physician on a quarterly basis. In such cases, the quarterly visit should include a funduscopy and appropriate referral if retinopathy is detected.

AAO recommends that diabetic patients should be under the care of an ophthalmologist experienced in the management of diabetic retinopathy. Ophthalmologists with specialized knowledge and experience in managing the disease are best able to detect and treat serious disease.

American Optometric Association recommends eye examinations to determine level of diabetic retinopathy as follows (individual situations and level of eye disease may suggest more frequent eye examinations):

- Patients aged 29 years or younger (generally type 1 diabetes): within 3-5 years after diagnosis of diabetes once a person is age 10 years or older, and annually thereafter
- Patients aged 30 years or older (generally type 2 diabetes): at the time of diagnosis, and annually thereafter
- Pregnancy in pre-existing diabetes: prior to conception and during the first trimester, with follow-up evaluation during pregnancy based on findings of the first trimester examination and 6-8 weeks postpartum

#### PRIMARY CLINICAL COMPONENT

Diabetes mellitus; retinopathy; eye examination; funduscopy photograph

#### DENOMINATOR DESCRIPTION

All patients diagnosed with diabetes aged 18-75 years

#### NUMERATOR DESCRIPTION

The number of patients from the denominator receiving a funduscopy photo with interpretation by an ophthalmologist or optometrist

### Evidence Supporting the Measure

#### PRIMARY MEASURE DOMAIN

Process

#### SECONDARY MEASURE DOMAIN

Not applicable

#### EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

#### NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [The American Association of Clinical Endocrinologists medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update.](#)

#### Evidence Supporting Need for the Measure

#### NEED FOR THE MEASURE

Wide variation in quality for the performance measured

#### EVIDENCE SUPPORTING NEED FOR THE MEASURE

American Academy of Ophthalmology preferred practice pattern on diabetic retinopathy. 1998.

American Association of Clinical Endocrinologists, American College of Endocrinology. Medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update. Endocr Pract 2002 Jan-Feb;8(Suppl 1):40-82. [96 references]

American Diabetes Association. Clinical practice recommendations 2002. Diabetic retinopathy (position statement). Diabetes Care 2002 Jan 1;25(Suppl 1):S73-S76.

American Optometric Association. Clinical practice guideline on care of the patient with diabetes mellitus. 3rd ed. St. Louis (MO): American Optometric Association; 2002.

#### State of Use of the Measure

#### STATE OF USE

Current routine use

#### CURRENT USE

Internal quality improvement

## Application of Measure in its Current Use

### CARE SETTING

Ambulatory Care  
Community Health Care  
Managed Care Plans  
Physician Group Practices/Clinics  
Rural Health Care

### PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

### TARGET POPULATION AGE

Age 18-75 years

### TARGET POPULATION GENDER

Either male or female

### STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

## Characteristics of the Primary Clinical Component

### INCIDENCE/PREVALENCE

- Total: 18.2 million people - 6.3% of the population - have diabetes
- Diagnosed: 13 million people
- Undiagnosed: 5.2 million people
- New cases diagnosed per year: 1.3 million
- About one third of these individuals do not know that they have the disease.

### EVIDENCE FOR INCIDENCE/PREVALENCE

American Diabetes Association. Diabetes statistics. [internet]. Alexandria (VA): American Diabetes Association; [cited 2004 Jun 11]. [2 p].

National diabetes fact sheet: national estimates on diabetes. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion; 2003 [updated 2003 Dec 04]; [cited 2004 Feb 01]. [8 p].

## ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

## BURDEN OF ILLNESS

- Diabetes is the leading cause of end-stage renal disease, accounting for 43% of new cases. Adults with diabetes account for more than 60% of nontraumatic lower limb amputations and are also twice as likely to have heart disease than people without diabetes.
- Diabetes is the sixth leading cause of death listed on U.S. death certificates in 2000. This is based on the 69,301 death certificates in which diabetes was listed as the underlying cause of death. Altogether, diabetes contributed to 213,062 deaths.
- Complications from diabetes include heart disease, stroke, hypertension, retinopathy, end-stage renal disease, peripheral neuropathy, non-traumatic lower limb amputations, periodontal disease, pregnancy complications affecting mother and fetus, ketoacidosis, and coma.
- Retinopathy poses a serious threat to vision. The prevalence of retinopathy is strongly related to the duration of diabetes. Treatment modalities exist that can prevent or delay diabetic retinopathy.

## EVIDENCE FOR BURDEN OF ILLNESS

American Diabetes Association. Clinical practice recommendations 2002. Diabetic retinopathy (position statement). Diabetes Care 2002 Jan 1;25(Suppl 1):S73-S76.

American Diabetes Association. Diabetes statistics. [internet]. Alexandria (VA): American Diabetes Association; [cited 2004 Jun 11]. [2 p].

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## UTILIZATION

Unspecified

## COSTS

- 2002 cost of diabetes in the United States: \$132 billion
- Direct medical costs: \$92 billion
- Indirect costs: \$40 billion (disability, work loss, premature mortality)

## EVIDENCE FOR COSTS

American Diabetes Association. Diabetes statistics. [internet]. Alexandria (VA): American Diabetes Association; [cited 2004 Jun 11]. [2 p].

National diabetes fact sheet: national estimates on diabetes. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion; 2003 [updated 2003 Dec 04]; [cited 2004 Feb 01]. [8 p].

## Institute of Medicine National Healthcare Quality Report Categories

### IOM CARE NEED

Living with Illness

### IOM DOMAIN

Effectiveness

## Data Collection for the Measure

### CASE FINDING

Users of care only

### DESCRIPTION OF CASE FINDING

All patients diagnosed with diabetes aged 18-75 years

### DENOMINATOR SAMPLING FRAME

Patients associated with provider

### DENOMINATOR (INDEX) EVENT

Clinical Condition

### DENOMINATOR INCLUSIONS/EXCLUSIONS

#### Inclusions

All patients diagnosed with diabetes aged 18-75 years

#### Exclusions

None

### NUMERATOR INCLUSIONS/EXCLUSIONS

#### Inclusions

The number of patients from the denominator receiving a funduscopy photo with interpretation by an ophthalmologist or optometrist

#### Exclusions

None

#### DENOMINATOR TIME WINDOW

Time window follows index event

#### NUMERATOR TIME WINDOW

Fixed time period

#### DATA SOURCE

Administrative data  
Medical record

#### LEVEL OF DETERMINATION OF QUALITY

Individual Case

#### PRE-EXISTING INSTRUMENT USED

None

### Computation of the Measure

#### SCORING

Rate

#### INTERPRETATION OF SCORE

Better quality is associated with a higher score

#### ALLOWANCE FOR PATIENT FACTORS

Unspecified

#### STANDARD OF COMPARISON

Internal time comparison

### Evaluation of Measure Properties

#### EXTENT OF MEASURE TESTING

Unspecified

### Identifying Information

#### ORIGINAL TITLE

Percentage of patients receiving a funduscopy photo with interpretation by an ophthalmologist or optometrist.

#### MEASURE COLLECTION

[National Diabetes Quality Improvement Alliance Performance Measures](#)

#### MEASURE SET NAME

[National Diabetes Quality Improvement Alliance Performance Measurement Set for Adult Diabetes](#)

#### DEVELOPER

National Diabetes Quality Improvement Alliance

#### ADAPTATION

Measure was not adapted from another source.

#### RELEASE DATE

2003 May

#### MEASURE STATUS

This is the current release of the measure.

#### SOURCE(S)

National Diabetes Quality Improvement Alliance performance measurement set for adult diabetes. Chicago (IL): National Diabetes Quality Improvement Alliance; 2003 May 1. 11 p.

#### MEASURE AVAILABILITY

The individual measure, "Percentage of Patients Receiving a Funduscopy Photo with Interpretation by an Ophthalmologist or Optometrist," is published in the "National Diabetes Quality Improvement Alliance Performance Measurement Set for Adult Diabetes." This document is available in Portable Document Format (PDF) from the [National Diabetes Quality Improvement Alliance Web site](#).

#### NQMC STATUS

This NQMC summary was completed by ECRI on December 9, 2003. The information was verified by the measure developer on August 19, 2004.

#### COPYRIGHT STATEMENT

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